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ABSTRACT

A cross-linguistic study of negation in English, French, and Korean examined the relationship of transparency and position of marker to acquisition of negation. Data were drawn from a longitudinal study of nine children: two native Korean-speakers, two American speakers of English, and five speakers of French. Five of the children were studied for over a year. Mean length of utterance (MLU) in recorded spontaneous speech and age were independent variables measured. The negative forms differ in each language in their transparency between form and meaning, and it was predicted that French-speakers would acquire their more transparent forms first. It was found that all the children began to combine negative markers with other lexical items at a MLU of 1.4-1.5, but that French-speakers acquired it earliest in terms of MLU and age. Variation was found in the acquisition of different negative forms within each language. The results also indicate that all the children preferred preposing the negative form at the early stages of acquisition, contradicting some earlier research. (MSE)

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Transparency and Pragmatics in the Acquisition of Negation

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According to the universal operating principles of language acquisition suggested by Slobin (1973, 1982), transparency and saliency are important factors in determining the rate of acquisition of grammatical morphemes across languages. Slobin hypothesizes that while cognitive growth is relatively constant in all children, (that is, the grasp of certain conceptual knowledge occurs at around the same age) language-specific properties, such as the degree of transparency between meaning and form, would affect the relative ease of acquisition of particular forms. Thus, Slobin (1982) argues that "surface marking which is overt and clear is more easily discovered and acquired by the child".

Degree of transparency of grammatical morphemes can be defined by evaluating several properties: first, the meaning and form have a consistent one-to-one correspondence. That is, one meaning is regularly expressed by one form and the form does not have any allomorphy. Second, the form is obligatory in the sense that whenever the meaning is intended the form must be used. Third, the form is a full syllable, is stressed and is isolable, that is, the form is not fused with other forms.

Regarding perceptual saliency Slobin suggests that <u>postposed</u> markers are more salient than <u>preposed</u> markers. Thus, Slobin

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(1973) argues that that "postposed" grammatical markers are acquired earlier than "preposed" markers. Slobin specifically states that:

Universal A1: "For any given semantic notion grammatical realizations in the form of suffixes or postpositions will be acquired earlier than realizations in the form of prefixes or prepositions"

In this paper, I report the results of the cross-linguistic study of negation in English, French and Korean. I try to show that transparency is one of the determining factors of the rate of acquisition of negation as argued by Slobin. However, I also show that concerning the position of the marker, there is no evidence that a postposed negative marker is easier to acquire than a preposed marker. On the contrary, the data show that children acquired preposed markers before postposed markers. Furthermore children of all three languages showed a strong tendency to <u>prepose</u> the negative marker to the negated element. I argue that the high degree of content information inherent in the meaning of negation seems to explain this tendency.

Our data include the longitudinal study of 9 children (see Table 1): 2 Korean, 2 American and 5 French-speaking children. Among the nine children, 5 were studied for more than one year starting when their Mean Length of Utterance was less than 1.5. They were 2 Korean. 2 American children and 1 French-Canadian child. The four French children were studied for three months in France.

Table 1: Nature of the Data

Longitudinal Study
(Children's spontaneous speech was taped 1 hour every 3 weeks)

	Name	Study Period (year;month)	MLU Range
English	Patrick	2;2 - 3;2	1.3 - 3.96
	Kyle	1;7 - 2;9	1.2 - 3.61
French	Adele	2;2 - 3;6	1.0 - 3.5
Korean	Tongju	1;9 - 3;2	1.4 - 3.7
	Jene	1;7 - 2;8	1.0 - 2.94

Abbreviated Longitudinal Study
(Children's spontaneous speech was taped 1 hour every 2 weeks)

French	Ronan	1;11 - 2;2	1.3 - 1.9
	Anne	1;11 - 2;1	1.9 - 2.3
	Alexis	2;5 - 2;7	2.3 - 2.7
	Marguerite	2;5 - 2;7	2.3 - 3.3

Mean Length of Utterance was measured according to Brown's (1973) method for all three languages except that imitations and immediate self-repetitions were not counted. The most crucial basis of morpheme-counting in all three languages was that a unit was counted as one morpheme if the child could use another morpheme in the same position in a sentence with a contrast in meaning. MLU thus counted seemed to be a reasonable basis for comparison. In this paper, I will use both MLU and age for comparison across languages.

Assuming that negation is one semantic notion in the sense that in all cases it is used to negate the speaker or listener's presupposition, all three languages in this study have several grammatical devices to express negation, but they differ in the degree of transparency between form and meaning. All three languages have a free form which is used in isolation, and one or

more forms for syntactic negation, that is, markers used within a clause. We will call these grammatical markers. Table 2 shows the negative forms in the three languages with some examples.

Table 2: Negation in English, French and Korean

	Free Form	Grammatical Marker
English	no	not [nt]: can't, don't, won't, isn't, etc. no
French	non	pas
Korean	ani	an : preverbal or postverbal ani

Examples

English: 1. I do **not** smoke.
2. **Not** this one.
3. I ca**n't** speak Korean.
4. I have **no** money.

French: 5. J'aime **pas** ce livre.
I like neg this book
"I don't like this book."

6. Je n'aime pas ce livre.
I neg like neg this book
"I don't like this book."

7. Pierre veut **pas** aller au concert.
Pierre want neg go to+the concert.
"Pierre does not want to go to the concert."

8. **pas** celui-là.
neg that one.
"not that one"

Korean: 9. na-nɨn koki-lɨl **an** mek-nɨn-ta
I-Top meat-Ob neg eat-Pres-Ind.
"I do not eat meat."

10. na-nɨn koki-lɨl mek-ci **an**-nɨn-ta
I-Top meat-Ob eat-Suf neg-Pres-Ind.
"I do not eat meat."

11. i kes-in caek-i **ani**-ta
this thing-Top book-Sub neg-Ind.
"This is not a book."

12. i-ke ani-ta
this-thing neg-Ind
"not this"

(Pres- Present, Ind - Indicative, Top- Topic, Sub- Subject, Ob- Object, Suf - Suffix)

In English. the syntactic forms are "not", the contracted form [nt] and "no". For sentential negation, that is, negation of the main predicate, "not" occurs after auxiliaries as shown in Example 1. For local negation, it occurs before the negated element as in Example 2 When "not" occurs after auxiliaries it is often contracted to [nt] and is suffixed to the auxiliary. With the auxiliary, [nt] consitutes one full svllable "No" occurs only before a Noun Phrase meaning specifically non-existence as shown in Example 4.

In everyday spoken French there is only one syntactic form of negation, namely "pas". That is, the discontinuous negative morpheme "ne" which can occur before the finite verb as in Example 6 exists only in written form and when negation is emphasized in discourse. We examined Mothers' speech to our French-speaking children and we found that "ne" rarely occurred. ("ne" occurred only 8% of all the negative utterances). In sentential negation, "pas" occurs after a finite verb as in Example 5. However. "pas" can occur before a non-finite verb. as in Example 7. In local negation "pas" occurs before the negated element as shown in Example 8.

Korean has two syntactic markers: "an" and "ani". However, the sentential negative marker "an" can either precede the main

verb (or adjective) or follow it as shown in Examples 9 and 10. When "an" occurs after the main verb as in Example 10. the main verb must take the suffix "-ci". "ani" negates Noun Phrase predicates and also functions as local negation as in Examples 11 and 12 respectively.

My assumption that negation is one unitary notion suggests that of the speaker's or listener's presupposition, the French system would be the most transparent because it has a one-to-one correspondence between form and meaning. Furthermore, "pas" is a full syllable and it is stressed in discourse. Therefore, it is predicted that French children would acquire the negative marker earlier than English and Korean children.

Table 3 shows the emergence and the acquisition of negative markers of all the children studied in the course of their development measured by MLU and age. First, we notice that the syntactic development of negation occurs at around the same MLU period: 1.4 - 1.5. That is, children began to combine a negative marker with other lexical items in a systematic way around the same time. Interestingly, our data agree with Bowerman's finding (1975) from her cross-linguistic survey that children began the syntactic construction of negation around MLU 1.5. This result strongly suggests that children's cognitive development for negation occurs around the same time regardless of the differences in language-specific system.

My data show also that French children acquired the grammatical marker of negation and its syntactic rule earlier than English and Korean children in terms of both MLU and age.

Table 3: Development of Negation

		English		French		Korean	
AGE	MLU	Patrick	Kyle	Adele	Others	Tongju	Jene
1;9	1-1.2	no	no	non non pas	non non pas	(aa)	(aa)
2;3	1.4	no N		pas Adv		an V ani	
	1.5		no N	pas N Pro	pas N Pro		an V ani Pro ani
				V pas	V pas		
2;0	1.6			**pas X**			***an N**
	1.7	no V	no V			Pro ani	
2;6			can't V **no N**				
	1.8				**pas X**		
	1.9				***pas V**		
	2.0	***no V** can't V	***no V**	***pas V**			
	2.1					N ani	
	2.2					**an V**	**an V**
	2.4			**V pas**	**V pas**		
	2.5		not N V Adv			**N ani**	**N ani**
2;5							
2;11			don't V				
	2.6	don't V					
	2.7	not N Adj Adv	**can't V**				
	2.8		**not X**			V an an Adj	
	2.9	**can't V** **don't V** **not X**					
	3.1		won't V				
	3.3		**don't V**				

bold face: negative marker was combined with more than 5 different lexical items showing its productivity.

X : different grammatical categories, i.e. N, Pro, Adj.

*: ungrammatical for adults

(aa): proto form

Between MLU 1.4 and 1.5 the French children produced "pas" negating different grammatical categories, such as N, Pron, Adj, Adv, V. It should be further noted that French children said "non pas" or just "pas" when they were producing just free forms for negation before they combined "pas" with other lexical items. This indicates that "pas" was discovered as negative marker about the same time as the free form "non".

Examples of syntactic constructions with "pas" are shown in Examples 13 through 15. (The child's utterances are written on the right side. S refers to the author and M refers to the child's mother.)

Example 13
(Adele, MLU 1.63)
(A does not want to read the book.)

pas cela
"not that"

Example 14
(Adele, MLU 1.4)
(A tries a puzzle piece on a hole but it does not fit.)

pas là
"not there"

Example 15
(Adele, MLU 1.5)
(S pointing to rabbit)

S - C'est une maison↑?
It is a house
"Is this a house?"

non/
pas maison
"not house"

The French children also produced the pattern [V pas]. The verbs were those which have a high frequency in spoken language. For examples,

Example 16
(Ronan, MLU 1.6)

S - Comment ca va?
"How are you?"

ca va pas.
"It's not going well"

Example 17
(Adele. MLU 1.5)
S - C'est quoi, Adele? sais pas.
"What is it, Adele?" "don't know"

However, these forms seem to be rote-memorized rather than learned by a syntactic rule of negation. At this stage, the children studied were between 1;11 and 2;0.

After this period, French children showed rapid growth in the acquisition of negation. This occurred between MLU 1.6 and 2.4. Local negation using the construction "pas" and a constituent was productive at MLU 1.6 or 1.7. Then, an interesting pattern emerged around 1.9. The children produced the construction [pas + Verb] where the verb was either finite or non-finite form. Sometimes the children put a whole phrase after "pas". This shows the children generalized the pattern "pas" followed by a negated element to all negative utterances. This period did not last long, and between MLU 2.2 and 2.4, the children began to produce the constructions with "pas" after a finite verb, as in the adult system. Thus, French children mastered the syntactic rules of negation by MLU 2.4 (Age 2;3).

Compared to this, English and Korean children were late in acquiring the negative forms.

The two American children started by combining "no" with Nouns and then extended the pattern to Verbs as in Examples 18 and 19. This occurred between 1;10 and 2;2.

Example 18
(Kyle, MLU 1.7)
(K brings his blanket to the playroom.
It's his security blanket.)
S- Do you want to sleep here? no sleep

Example 18
(Kyle, MLU 2.0)
(S thinks that K has a wet diaper)
S- Let's change. no change

Of course, this is not grammatical for adults. At this time they also began to produce "can't". For example,

Example 20
(Kyle, MLU 1.7)
(K's brother D wants K to lie down next to himself)
D- Kyle, lie down here. I can't nap.
("I don't want to take a nap.")

As U. Bellugi (1967) has already pointed out, the children, at this time, have not analyzed "can't", the evidence being that they did not produce the affirmative form "can". As we will see later, "don't" and "won't" also seemed to be produced these forms as unanalyzed wholes, indicating that [nt] as a negative marker is opaque However, from MLU 2.5 the American children began combining "not" with several lexical items: Noun, Adverb and Verb with the progressive suffix "ing". Finally, the productivity of the pattern "not" followed by a negated element occurred at MLU 2.8 between 2;6 - 2;10 in age.

Looking briefly at Korean data, the Korean children produced the free form relatively later than American and French children. The free form "ani" and the combination of "an" and a verb occurred around the same time. The preverbal "an" occurred in utterances such as

"an ka", "an meke", "an twae"
neg go neg eat neg possible

as shown in Examples 21 and 22.

Example 21
(Tongju, MLU 1.4)
(T's friend J is playing with T's toy.
T taking the toy away) an twae
neg possible
"You can't"

Example 22
(Jene, MLU 1.6)
(J stops eating a tangerine)

an meke
neg eat
"no eat"

Notice that for quite a while, "ani" occurred in one type of syntactic pattern, namely the pronoun "i-ke" and "ani".

"i-ke aniya"
this neg
"not this"

On the other hand, [an + V] shows productivity during this period. "An" has a high degree of transparency between form and meaning, although less than French since there is restriction on the grammatical categories "an" can negate. It can only negate a verb or an adjective. But "an" is a full syllable, its meaning is clear, and its form doesn't change before a verb.

After the productive use of the preverbal "an", the postnominal marker "ani" became also productive at around MLU 2.5. However, the postverbal "an" never became productive until the end of our study.

To summarize, French children acquired the grammatical markers of negation well before English and Korean children. We think that transparency is one of the crucial factors for these results. The characteristic properties of the French negative marker "pas" are that it exhibits a high degree of regularity between form and meaning -i.e. it does not have allomorphy, it is perceptually salient in that it is a full syllable and it is stressed.

Thus it seems that while the cognitive development for negation occurs around the same time in all children cross-

culturally. the time needed to master the language-specific grammar of negation correlates with the degree of transparency specific to the target language.

Now let's turn to the morpheme order.

Table 3 shows that all children put the negative marker in the initial position during the early periods of syntactic construction. In other words, the pattern was predominantly neg preceding the negated element.

More precisely, the first syntactic form that appears in English is [no + N] for both children. For French children it is [pas +{N. Adj, Adv}] and for Korean children it is [an + V].

In Korean and in French, the children did produce a few utterances with neg following a constituent. However, as noted earlier, this pattern did not become productive right away. The utterances with this pattern were frequently phrases used such as:

French: "ca va pas", "sais pas",

Korean: "i-ke an-twae"
this neg-possible

In contrast to this, during the next stage of the development French children produced [pas + V] productively and the Korean children, [an + V].

It should be emphasized here that [pas + Finite Verb] is not grammatical for adults. Nevertheless, the French children at this period used this pattern abundantly. A few examples are illustrated from Examples 23 through 25.

Notice, however, that the form of the verb was sometimes in the infinitive as shown in "pas ranger" in Example 24 and "pas regarder" in Example 26. It is possible that the French children

generalized the pattern existent in adult grammar, namely [Modal + pas + Infinitive]. We counted the frequency of this construction in three French mothers' speech and found that "pas" following a finite verb was much more frequent than "pas" preceding a non-finite verb. This is shown in Table 4.

Table 4: Frequency in the mother's speech (during three hours of interaction with child)

Child's Name	[Modal + pas + Infinitive]	[Finite Verb + pas]
Adele	6	45
Anne	3	26
Marguerite	2	26

This shows that despite the fact that "pas" occurred after the verb more often than before the verb in the input, children put the verb after "pas".

This result suggests that for children, "pas" in the preposed position is more salient than the postposed position.

Example 23
(Anne, MLU 2.2)
(A can't put two Lego pieces together) **pas** arrive (1st/sing)
"not succeed"

Example 24
(Anne, MLU 2.3)
(A picking up her toys) on range (1st/sing)
"Let's clean up."

M- On range.
"Let's clean up"
Tu veux ranger? non
"You want to clean up?" "no"
Tu ranges cela? non/ **pas** ranger (inf)
"You clean this up?" "no"/ "not clean up"
pas range/**pas** range
(1st/sing)
"not clean up"

Example 25
(Adele, MLU 2.0)
(S is closing crayon box)
S- Je ferme. **pas** ferme (2nd/sing)
"I close" "don't close"

Example 26
(Anne, MLU 2.2)
(A closing the book) **pas** regarder (inf) ca moi
neg look this me
"I don't look at it."

Further evidence for the saliency of the preposed negative marker as opposed to the postposed marker can be seen in our Korean data. Korean children acquired the preverbal "an" before the postposed "an" and also before the postnominal "ani".

In summary, the data show that all of the children studied preferred preposing NEG before the negated element at the early stages of negation.

How do we explain this preference? Bellugi(1964) appealed to Transformational grammar where the negative marker is placed outside of the sentence. But this is only a formal device and not an explanation. Greenfield and Zukow(1978) show that at the early stage of language development the word order in children is related to the degree of informativeness. The words that carry new information in a particular discourse context tend to be placed first in two-word utterances. MacWhinney and Bates (1978) review several studies which suggest a preference for the ordering of the newness (i.e. new information) before the givenness in early syntax. According to these studies, in two-word utterances, children tend to initialize verbs which typically carry new information regardless of the word order of the target language. According to MacWhinney and Bates (1978)

"newness refers to the extent to which the speech signal alters the listener's conscious knowledge." From this perspective. negation contains a high degree of informativeness because the function of negation is to completely alter the situation, that is denying the speaker's or listener's belief. We suggest that this characteristic inherent in negative markers may account for the children's preference to place the negative marker before the negated element.

Thus, our data presented here does not conform to Slobin's operating principle that postposed markers are more salient and therefore acquired earlier than preposed markers. On the contrary, the tendency is to begin an utterance with a negative marker, and therefore the preposing of a negative marker was predominant in all children studied. We suggest that negative markers are pragmatically different from other grammatical markers such as locative or causative markers in that they carry new and content information in discourse. Such pragmatic factors seem to play a role in morpheme ordering and thus detract from the generalization that postposed grammatical markers are acquired before preposed markers.

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